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A DOWN TO EARTH SUPPLEMENT FOR THE YOUNG AND CURIOUS

# RAIN, RAIN, GO AWAY...

A Journey through Seasons with Composting Tips for Budding Eco-Warriors

Cover Story

# Joni, Dida, and the Unforgiving Seasons

Rituparna Sengupta

**How much can one season bring? From scorching heatwaves to raging floods, discover how extreme weather events shape our lives.**

**Supplement Editor:** Souparno Banerjee **Senior Creative Director:** Ajit Bajaj **Supplement Editorial Coordinator:** Anubhuti Sharma
**Design:** Ritika Bohra **Illustrations:** Yogendra Anand **Cover Design:** Ritika Bohra **Production:** Rakesh Srivastava, Surender SIngh, Gundhar Das
**Email:** young@downtoearth.org.in **Snail Mail:** Centre for Science and Environment, 41, Tughlakabad Institutional Area, New Delhi–110062

It was hot every year, but this year they had to close Joni's school for an extra two months because of the heat. Mr Gokhale, the principal of City Public School, had looked particularly sweaty during the last morning assembly. As all the students stood in rows, Mr. Gokhale wiped his large forehead with his hanky and took the mic on the podium.

"Children, we have a special announcement. As you know, we are experiencing a difficult heatwave this year. That's why the government has issued an order; all schools will remain closed until further notice. Your parents have been informed and your teachers will tell you about online classes. Don't get too excited, you will still have your exams. So study hard and don't think of this as an extended summer vacation, okay?"

A mixed murmur of joy and protest rippled across the hall.

"Silence!" Mr Gokhale barked into the mic, "Now we'll carry on with the morning prayers. And please don't forget to drink water and stay hydrated".

That was two months ago.

Since then, twelve-year-old Joni had attended several online classes. At first, she enjoyed being at home. She could spend time with her dog, Rambo, but most of all, Joni liked hanging out with Dida, her grandmother, who would tell her colourful stories from her childhood in her native village.

But of late Joni had begun to feel restless. As the days dragged on and the sun beat down upon the city emptying the roads of people and even animals, Joni longed for school and meeting her friends in person. Of course she had video chats with them almost every day but it was not the same as meeting them daily and chatting with them after class.

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Gradually, even Rambo's walks got shorter and Papa would bring him back within five minutes of stepping out. Poor Rambo, he too looked depressed.

"Don't be sad, Rambo", Joni consoled him, patting his furry head as he panted dolefully at her, "we are all in this together. I am missing my outings too".

One morning, Joni woke up in her bed with sweat streaming down her forehead. When she sat up, she realised her nightdress and bedsheet were soaked in sweat too. As Joni walked into the living room, she could see that her Mummy, Papa, and Dida were huddled together, their faces serious and concerned. Papa was fanning himself with a thin magazine, while Mummy had a worried look on her face. Dida, as always, had a calm presence, but even she seemed a little troubled.

"Mummy, Papa, what's going on?" Joni asked with curiosity.

Mummy looked up, her eyes softening when she saw Joni. "Oh, Joni, you're awake? We were just discussing the situation. It seems that the heatwave is getting worse. The AC in your room has stopped working because of the electricity overload. You will sleep with Dida from tonight until we can get an electrician to fix this."

Joni knew what a heatwave

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was, they had discussed it in class. She also knew that this year's heatwave was worse than last year's. From what she had read online and in class, it was getting hotter with each passing year. People and animals were dying and she had also heard of water shortage in different parts of the city. This filled Joni with worry.

That night, as she carried her pillow to Dida's room, her mind was filled with concern about the heatwave, water shortage, and the friends she was missing.

"Dida, can I ask you something?" Joni whispered in the dark lying next to her grandmother whose breath always smelled of sweet paan and betelnut.

"Yes, little Jonaki,"

**Dida had always called her by her full name which meant 'firefly'. Dida had named her after the fireflies that used to light up the front yard at night in her old village home.**

Dida replied.

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"Dida, was it cooler in your village, the one where you grew up?" Joni asked.

"It always rained heavily in my village." Dida said gently.

"That must've been nice. It has barely rained here this year, even lesser than last year. I like the rains; everything looks so green and fresh after it rains. Now it is all so dry, brown and dusty. Did you and your friends like playing in the rain?"

Dida did not say anything for a few seconds. Then she sighed and ran her fingers through Joni's hair.

"Yes, we did. When the rain was pleasant, we would all go out and splash about in the rain—me, my older sister and younger brother. But you know, it wasn't always pleasant."

"What do you mean, Dida?" Joni asked, "Rain is always nice.

Miss Mandal, our class teacher, said that it might rain any day now and then this heatwave will be over. That's why, me and my friends are eagerly waiting for the rain."

"Yes, Jonaki, the rain is wonderful." Dida replied softly, "But sometimes, the rains can be angry too, just like this heat. Our village was very close to the river. Just like the heat now, there were times the rains wouldn't stop in our village. It would rain heavily for days and nights, sometimes weeks. When that happened, the water would spill from the river onto our village. It would enter our homes and sometimes even wash them away. At times people and cattle would be washed away too, and we would have to rebuild everything afterwards."

Joni sat up, intrigued by what Dida was saying. Of course, she had heard about floods in different parts of the country, but she had never imagined that Dida had experienced it so closely. When Dida spoke of her village, she never mentioned the floods or angry rains. Joni wondered why.

Dida sensed this and went on.

"Are you wondering why I never mentioned all this to you before?"

Joni nodded in the dark.

"The floods were very difficult for us. Every year, the river got angrier and took away some part of our village. Then a time came when it took a large part of my father's farm too. That is when he decided to sell the land that was left and shifted the family to a town, away from the big river and angry rains. I was seventeen at that time. I had to start a new life away from all my friends and my beloved village."

Joni lay beside Dida, her mind swirling with all that she had just heard. She tried to weave together Dida's past with their current reality. Today, a relentless heatwave was scorching the city, halting life in its tracks. In the past, heavy rains and a river had swept away Dida's home, driving her family to rebuild their lives elsewhere. Joni pondered how many were now fleeing the city because of the heatwave, abandoning all they cherished. Joni knew that not everyone in the city had ACs, 24X7 electricity or water supply. How must they be dealing with this horrid heatwave?

A week later, the city welcomed its first true rain of the season, a downpour that continued by fits and starts but lasted for a whole week. The weather reports announced the end of the heatwave and her friends celebrated over video chat, eagerly anticipating the joy of meeting in person once more.

Joni took Rambo out for a walk through the rain-slicked streets of her colony, revelling in the gentle drizzle and cool breeze. The smell of freshly washed soil and trees washed over her senses. When Joni stepped back into her flat, she found Dida standing alone in the balcony, silently observing the tree outside sway in the wind. Joni slipped out into the balcony and gently wrapped her arms around her grandmother, and they both quietly watched the rain together.

**"In the past, heavy rains and a river had swept away Dida's home, driving her family to rebuild their lives elsewhere. Joni pondered how many were now fleeing the city."**

*The author is a Senior Sub Editor, Publications, Centre for Science and Environment, New Delhi.*

DIY

# COMPOSTING 101

## Let's delve into the what, why & how of composting

Tushita Rawat

Have you wondered how a plastic toothbrush can lie around on Earth for hundreds of years but an apple core disappears in a few weeks? This happens when we let nature do its thing, and the superheroes that make it all possible are microorganisms or microbes. Microbes are tiny living things found all around us that are so small that they can't be seen with naked eyes. These superheroes break down all organic matter— coming directly from plants or animals, even something as tough as a bone. Read on as we walk you through the basics of composting — from selecting materials to maintaining the compost pile. Ready to get your hands dirty and make a difference? Let's dive in!

### The WHAT of composting

Composting is what gives the organic waste 'a second life'. It is the natural process of breaking down of organic materials like food scraps, leaves, and garden waste into nutrient-rich soil — nature's way of recycling the waste if you will. This dark, crumbly substance is called compost, and it's incredibly beneficial for plants and the environment. Do you know that because of its colour and nutrient properties, compost is also referred to as 'black gold'?

### The WHY of composting

Composting wet waste at home or in school has a range of positive impacts.

**Reduces Waste:** Most of our landfills are already way past their capacity. Composting is a smart solution to keep a significant amount of waste out of landfills, reduce the strain on these sites and cut down on greenhouse gas emissions, such as methane and carbon dioxide, which are responsible for climate change.

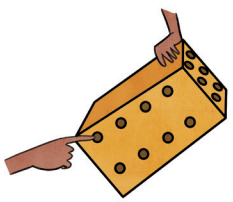
**Enriches Soil:** Compost is a superb soil conditioner. It adds essential nutrients that help plants grow healthier and stronger.

**Saves Money:** Using compost in your garden or for your home plants means you don't need to buy expensive chemical fertilisers.

**Conserves Water:** Compost improves soil structure and helps it retain moisture, reducing the need for frequent watering.

### The HOW of composting

#### Step 1: Choose a container



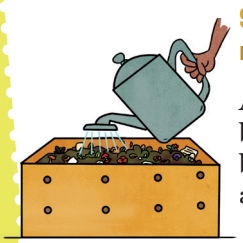
You don't need a large backyard to start composting. You can use a trash can or bucket. Simply drill small holes (less than half an inch) on the side walls of the container for airflow. Secure the container with a tight-fitting lid to keep birds and pests out, and you're ready to begin composting.

#### Step 2: Gather greens and browns

The waste added to the container must have a good balance of the greens and browns — add two to three times more browns than greens. Greens are wet, nitrogen-rich materials, while browns are dry, carbon-rich ones. This balance prevents the compost from becoming too wet or too dry.

***Pro tip:*** ***The compost should be warm and not smell bad. If your compost pile is not heating up, add more greens. If it starts to smell, add more browns.***

#### Step 3: Introduce microbes



Adding microbes in the beginning of the process helps break down the waste quickly and turn it into compost. And

DIY

**Watch out! What cannot go in the compost bin...**

Dairy

Meat and bones

Cooked food with oil

Animal faeces

Walnut shell

here's the best part: all of this can be done at home easily!

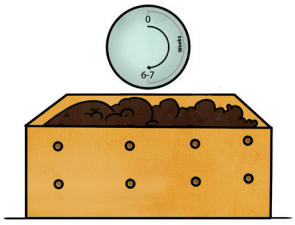
To prepare the mixture, combine 10 parts water with one part jaggery (*gud*) and one part curd. Allow the mixture to ferment for a week and then add it to your compost.

## Step 4: Aerate and water as required

Turn the pile with a shovel every day to promote air circulation. If the mixture looks too dry, you can also sprinkle some water on it. The mixture should be moist, not soggy.

***Pro tip:*** ***Cut up large pieces of waste items to quicken the process.***

## Step 5: Wait for the magic to happen

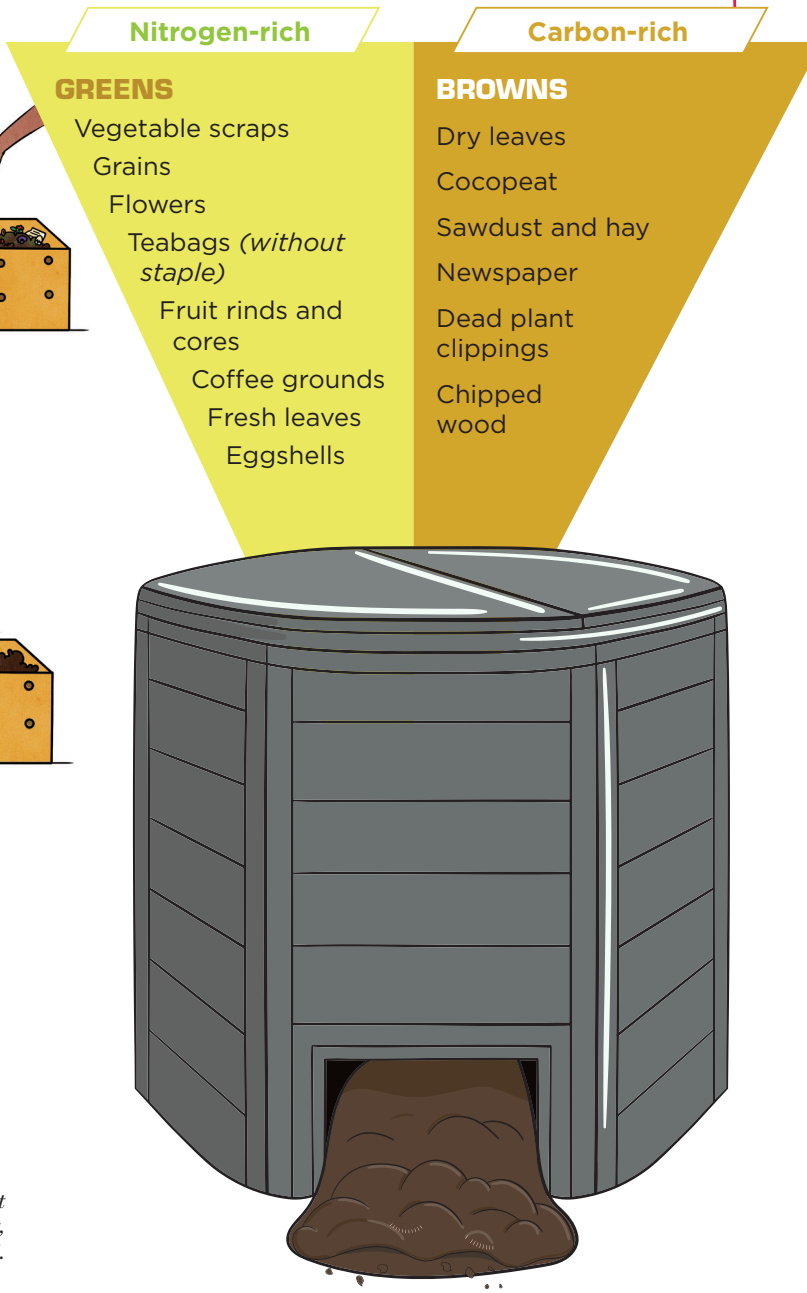



Composting is a gradual process that requires patience. It typically takes six to eight weeks for the compost to be ready. The finished product should look like black, crumbly soil with an earthy smell. You can mix it with the garden soil or in the potted plants to improve soil health and promote plant growth.

Once you've mastered composting, share your journey with peers, neighbours, and your school community to inspire them. Teach them about the benefits of composting and guide them through the process. Imagine the impact we could make if every home and school around us stopped sending wet waste to landfills — dramatically reducing greenhouse gas emissions.

Go on and create ripples of change!

*The author is a Programme Manager in the Environment Education Unit of the Centre for Science and Environment, New Delhi.*



# KILL

## AMR, THE SILENT KILLER, IS HERE

Stealthy, silent, and deadly as an assassin. Striking at will across the world. Antimicrobial Resistance, or AMR, is stalking humanity, leaving millions dead and dying in its wake. A well-recognised global public health threat today, AMR happens because of misuse and overuse of life-saving antibiotics, which makes disease-causing microbes resistant to existing medicines. In such a scenario, prevention is the only way out.

Ritika Bohra/GT